

MR929-1176

Serial Number: 10/753,388

Reply to Office Action dated 19 October 2005

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Official Action dated 19 October 2005. Responsive to the rejections made in the Official Action, Claims 1, 3, 4 and 13 have been amended to clarify the combination of elements which form the Invention of the subject Patent Application. Additionally, Claims 2, 5, 6, and 14-18 have been amended to correct informalities therein and Claims 7-12 and 19-27 have been canceled by this Amendment.

In the Official Action, the Examiner rejected Claims 1-3, 5-8, 10-15, 17-22, and 24-27 under 35 U.S.C. § 103(a), as being unpatentable over Mills, et al., U.S. Patent 5,317,269, in view of Sekine, U.S. Patent 4,844,090.

Before discussing the prior art relied upon by the Examiner, it is believed beneficial to first briefly review the structure of the invention of the subject Patent Application, as now claimed. The invention of the subject Patent Application is directed to a device for measuring an electrocardiogram with tapeless format. The device includes a shell having opposing top and bottom surfaces. The shell is shaped as a thin and long cube and has at least one operating panel on the top surface and a pair of recesses on both the operating panel and the bottom surface. The device includes at least two gelless electrodes adapted for contact by two fingers of each hand of a user by the two gelless electrodes being respectively disposed in the recesses on the operating panel and passing over at least one edge of the shell into the corresponding recesses on the bottom surface of the shell

MR929-1176

Serial Number: 10/753,388

Reply to Office Action dated 19 October 2005

opposite to the operating panel. The device further includes at least one information display located on the operating panel to display a plurality of measured values. The device includes a calculation system disposed in the shell and connected to the two gelless electrodes and the information display for calculating relative electrical information measured from the gelless electrodes and display results on the information display.

From another aspect, as defined in Claim 13, the invention of the subject patent Application is directed to a device for measuring an electrocardiogram with tapeless format that includes a shell having opposing top and bottom surfaces. The shell is shaped as a thin and long cube and has at least one operating panel on the top surface and a pair of recesses on both the operating panel and the bottom surface. Four gelless electrodes adapted for respective contact by two fingers of each hand of a user by two of the gelless electrodes being respectively disposed in the recesses on the operating panel and the other two gelless electrodes being respectively disposed in the recesses on the bottom surface of the shell. At least one information display located on the operating panel to display a plurality of measured values is included in the device. Still further, the device includes a calculation system disposed in the shell and connected to the four gelless electrodes and the information display for calculating relative electrical information measured from the gelless electrodes and display results on the information display. By that arrangement, the user is able to support the device in

MR929-1176

Serial Number: 10/753,388

Reply to Office Action dated 19 October 2005

the hands of the user, such being grasped by the thumb and forefinger of each of the user's two hands, whose two fingers of each hand being in contact with the gelless electrodes to provide the bipolar connection to the device. By providing each bipolar connection through at least two fingers of each hand, a lower resistance connection is made to the instrument. Further, particular to the structure of the invention defined in Claim 1, the body surface contact area is increased by extending each contact over at least one edge of the shell, allowing the first dorsal introsseous muscle area (area between the thumb and forefinger) to also contact the electrodes, providing an even greater contact surface between the electrodes and the user's body.

In contradistinction, the Mills, et al. reference is directed to a wrist-worn ECG monitor with a battery end of life prediction. The watch-like device 10 includes a pair of dry skin electrodes 14 and 16 integrally formed therewith. Electrode 16 is formed as a rear base plate of the structure for contacting the wrist of a user. On the opposing side of the housing of the device an electrode 14 is provided which may be contacted by the user's other hand, such as the palm of the patient's other hand. Therefore, nowhere does the reference disclose or suggest at least two gelless electrodes adapted for contact by two fingers of each hand of a user by the two gelless electrodes being respectively disposed in the recesses on the operating panel and passing over at least one edge of the shell into the corresponding recesses on the bottom surface of the shell opposite to the operating

MR929-1176

Serial Number: 10/753,388

Reply to Office Action dated 19 October 2005

panel, as now defined in Claim 1. Further, nowhere does the reference disclose or suggest a structure where the gelless electrodes pass over a protruding surface portion disposed adjacent the at least one edge on the top surface of the shell, as well as pass over a protruding surface portion disposed adjacent the at least one edge on the bottom surface of the shell, as defined in Claims 3 and 4, respectively. Still further, nowhere does the reference disclose or suggest a structure wherein there are four gelless electrodes adapted for receiving contact by two fingers of each hand of a user by two of the gelless electrodes being respectively disposed in the recesses on the operating panel and the other two gelless electrodes being respectively disposed in the recesses on the bottom surface of the shell, as now defined in Claim 13. In fact, the reference teaches away from such structures, in that it provides one pair of electrodes, each electrode being on an opposing side of the housing.

The Sekine reference does not overcome the deficiencies of Mills, et al. The Sekine reference is directed to a pencil type heart potential waveform measuring device. The device includes an elongated substantially cylindrical body 1 having a first electrode 2 disposed at the distal tip and a second cylindrical electrode 3 provided in the grouping portion of the outer periphery of the body 1. By that arrangement, a user grasps the body 1 with one hand, preferably the right hand, and brings the electrode 2 into contact with their chest to provide the bipolar contact with the user's body. Thus, like Mills, et al., nowhere does the reference

MR929-1176

Serial Number: 10/753,388

Reply to Office Action dated 19 October 2005

disclose or suggest a structure with at least two gelless electrodes adapted for contact by two fingers of each hand of a user by the two gelless electrodes being respectively disposed in the recesses on the operating panel and passing over at least one edge of the shell into the corresponding recesses on the bottom surface of the shell opposite to the operating panel, as now claimed in Claim 1. Further, nowhere does the reference disclose or suggest the inclusion of protruding surface portions disposed adjacent the at least one edge of the top surface of the shell over which the gelless electrodes pass, nor does it disclose or suggest a protruding surface portion disposed adjacent the at least one edge on the bottom surface of the shell over which each of the gelless electrodes pass, as now defined in Claims 3 and 4, respectively. Further, as now defined in Claim 13, the reference fails to disclose or suggest four gelless electrodes adapted for respective contact by two fingers of each hand of a user by two of the gelless electrodes being respectively disposed in the recess on the operating panel and the other two gelless electrodes being respectively disposed in the recesses on the bottom surface of the shell.

Therefore, as neither Mills, et al. nor Sekine disclose or suggest the combination of elements which form the invention of the subject Patent Application, and in fact each of the two references teach away from the structure of the invention of the subject Patent Application, their combination cannot make obvious the invention of the subject Patent Application, as now claimed.

MR929-1176

Serial Number: 10/753,388

Reply to Office Action dated 19 October 2005

It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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